

ABSTRACT OF THE DISCLOSURE

Field technicians such as plumbers, the department of water and power, contractors, the gas company, etc. often require access and use of maps and geographical information for those maps. A server provides added functionality that enables the use of such geographical information on a personal digital assistant (PDA). A parallel processing architecture on the server side generates and assembles multiple maps into a single database. At the time of assembling the map into the database, the order of the maps within the mapset is preserved.

Accordingly, the application takes advantage of a host system with multiple CPUs and latencies inherent in the processing of a complex map are accounted. An efficient network synchronization of mapset databases is also provided. The creation of the complex mapset databases is separated from the transmission of the mapset to a client PDA device such that the mapset is pre-constructed prior to receiving a request from a client PDA device. The server is configured to receive alerts that create/delete/update the database on the server side (specific to a user profile). The database on the server side is pre-constructed when such alerts are received. The pre-constructed database is in a form that can be easily sent over a linear data stream, easily reassembled from the stream into a PDA database, and in a location that is specific to the user profile and located by a web server.

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